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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,387	10/17/2005	Agnes Dutron	VANM262.001APC	8653
20995 7590 10/02/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER BADR, HAMID R	
			ART UNIT 1794	PAPER NUMBER
			NOTIFICATION DATE 10/02/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/527,387	<b>Applicant(s)</b> DUTRON ET AL.	
	<b>Examiner</b> HAMID R. BADR	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE, 8/12/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/12/2009 has been entered.

2. The Declarations by Mr. Thierry Dauvrin are acknowledged. These declarations have been reviewed thoroughly.

3. Claims 1-12 and 15-25 are being considered on the merits.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7-10, 12, 15, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Gil et al. (1999, Keeping qualities of white pan bread upon storage: effect of selected enzymes on bread firmness and elasticity; hereinafter R4).

6. R4 investigates the incorporation of endo-1,4-xylanase together with amylase, maltogenic amylase and lipase into a bread dough comprising all other bread ingredients. (page 395, col. 2, materials and methods)

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7. R4 discloses that addition of addition of xylanase to the bread dough causes an increase in loaf volume. (page 394, col. 2, last paragraph).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-12, 15-20, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuglsang et al. (WO 02/19828; hereinafter R1) in view of Collins et al. (2002, A novel family 8, functional and physicochemical characterization; hereinafter R2) and Olesen (US 6,110,508).

3. R1 discloses a composition comprising one or more enzymes and also discloses a method for improving one or more properties of a dough, also a method for preparing a baked product and to a dough and/or a baked product produced thereby. (Abstract)

4. R1 discloses the incorporation of carbohydrases including xylanases, oxidoreductase, amylases, proteases, lipases to the composition for baking purposes (page 10, lines 1-37 and page 11, lines 1-37). It is noted that  $\alpha$ -amylase is a fungal amylase from *Aspergillus oryzae*. To support this position, the applicant is referred to US patent number 6,110, 508 for the details of fungal amylase in baking (Col. 5, line 64 to col. 6, line 7).

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5. R1 discloses the role of amylases to standardize the flour from the view point of amylolytic activity. Amylases and pentosanases generally provide sugar for the yeast fermentation, improve the bread volume, retard retrogradation (maintain crumb softness) and decrease the staling rate and stickiness that results from pentosan gums (page 12, lines 5-11).

6. R1 discloses that fungal  $\alpha$ -amylases may be used to improve the bread volume and to provide a good and uniform structure of the bread crumb. (page 12, lines 22-24).

7. R1 discloses that enzyme preparations containing a number of pentosanase and hemi-cellulase activities can improve the handling and stability of the dough, improve the freshness, the crumb structure and the volume of the bread. (page 12, lines 33-36).

8. R1 teaches combining  $\alpha$ -amylase and hemicellulase in a dough composition. In a particular embodiment the hemicellulase is a pentosanase such as xylanase. (page 13, lines 6-10). The xylanase is preferably of microbial origin e.g. derived from bacteria or fungi.

9. R1 gives an example where an encapsulated xylanase is used in baking. Other ingredients include water, flour, yeast, sugar, salt, ascorbic acid. The encapsulated enzyme was dispersed in water. The ingredients are combined and the dough is mixed (page 26, Example 3 to page 27 line 2). Other ingredients, including gluten, may also be added to the dough (page 22, lines 24-37).

10. R1 discloses the stabilizing or protective agents that can be used with enzymes including organic acids, inorganic salts, sugars etc. (page 21, line 31—page 22, line 7)

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11. R1 is silent regarding xylanase from glycoside hydrolases Family 8 as presently claimed.

12. R2 discloses xylanase enzyme belonging to family 8. The xylanase disclosed hydrolyses xylan to xylotriose and xylotetraose and is most active on long chain xylo-oligosaccharides. (Abstract).

13. The xylanase disclosed by R2, hydrolyzes with inversion of configuration. The source of the enzyme is *Pseudoalteromonas haloplanktis* (Abstract).

14. Claims 5-6, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuglsang et al. (WO 02/19828; hereinafter R1) in view of Collins et al. (2002, A novel family 8, functional and physicochemical characterization; hereinafter R2), Olesen (US 6,110,508), and JP 2001-245665 (hereinafter R3, Machine Translation).

15. R1 and R2 are silent regarding *Bacillus halodurans* as the enzyme source.

16. R3 discloses a xylanase from *Bacillus halodurans*. (page 9, lines 1-2).

17. Regarding other sources of xylanase such as *Bacillus halodurans* it would be obvious that the xylanase can be used in baking compositions as disclosed by R1. It would also be obvious that carriers such as powders, granules, liquids including cell extract, cell free extract and purified enzyme as presently claimed can be used in baking composition. R1 for instance uses the encapsulated enzyme (granule).

18. R1 specifically gives the details of the effects of xylanase on rheological properties of the prepared dough as well as volume increase and texture improvements

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of the baked bread. Therefore, the increase in the loaf volume is a known phenomenon when xylanase is used. Cutting the surface of the dough is a known process in preparation of breads such as French baguette. The dimensions of the surface cut obtained in bread doughs containing xylanase will be intrinsic to such breads.

19. R1 and R2 disclose all of the features of the presently claimed invention, and R3 discloses a new source of xylanase, therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use xylanase in dough compositions in order to improve the rheological properties of the dough and the resulting baked bread including loaf volume increase as taught by R1 and replace the xylanase source with the source as disclosed by R3. One would have done so to introduce a new source of xylanase to an already known art. Absent any evidence to contrary and based on the teachings of the cited references, there would be a reasonable expectation of success in using the new source of xylanase.

### ***Response to Arguments***

Applicants' arguments have been thoroughly reviewed. These arguments are not persuasive for the following reasons.

1. Applicants argue that the subject matter of the cited reference Collins, T. et al. (R2), is the work of the present inventors.

a. Upon reviewing the "In Re Katz Declaration" by Mr. Dauvrin, there are a few points to be mentioned.

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Firstly, T. Collins and G. Feller are not the only inventors in the instant application, therefore, the publication of Collins, T. et al. (R2) is still considered a work by others. Even if we take out the authors of the publication who did not have any contribution to the invention, the inventive entity of the instant application and the contributing authors of the publication are still different.

MPEP 715.01(a) [R-2] Reference Is a Joint Patent or Published Application to Applicant and Another:

When subject matter, disclosed but not claimed in a patent or application publication filed jointly by S and another, is claimed in a later application filed by S, the joint patent or application publication is a valid reference >under 35 U.S.C. 102(a) or (e)< unless overcome by affidavit or declaration under 37 CFR 1.131 or an unequivocal declaration under 37 CFR 1.132 by S that he/she conceived or invented the subject matter disclosed in the patent or application publication and relied on in the rejection. In re DeBaun, 687 F.2d 459, 214 USPQ 933 (CCPA 1982). See MPEP § 716.10 for a discussion of the use of 37 CFR 1.132 affidavits or declarations to overcome rejections by establishing that the subject matter relied on in the patent or application publication was the invention of the applicant. Disclaimer by the other patentee or applicant of the application publication should not be required but, if submitted, may be accepted by the examiner. Although affidavits or declarations submitted for the purpose of establishing that the reference discloses applicant's invention are properly filed under 37 CFR 1.132, rather than 37 CFR 1.131, such affidavits submitted improperly under 37 CFR 1.131 will be considered as though they were filed under 37 CFR 1.132 to traverse a ground of



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rejection. In re Facius, 408 F.2d 1396, 161 USPQ 294 (CCPA 1969).

MPEP 716.10- 35 U.S.C. 102 (a) PRIMA FACIE CASE IS ESTABLISHED IF

REFERENCE PUBLICATION IS "BY OTHERS"

A prima facie case is made out under 35 U.S.C. 102(a) if, within 1 year of the filing date, the invention, or an obvious variant thereof, is described in a "printed publication" whose authorship differs in any way from the inventive entity unless it is stated within the publication itself that the publication is describing the applicant's work. In re Katz, 687 F.2d 450, 215 USPQ 14 (CCPA 1982). See MPEP § 2128 for case law on what constitutes a "printed publication." Note that when the reference is a U.S. patent published within the year prior to the application filing date, a 35 U.S.C. 102(e) rejection should be made. See MPEP § 2136 - § 2136.05 for case law dealing with 102(e).

Secondly, Mr. Dauvrin, is not one of the authors of the publication of Collins, Tl. et al. (R2). The declaration is signed by Mr. Dauvrin who is not even the author of the article.

2. Applicants argue that the xylanase disclosed by JP 2001-245665 is not a family 8 xylanase because the reference does not disclose "family 8" terminology.

a. Firstly, "family 8" terminology does not add to the patentability of the subject matter.

Secondly, the classification of xylanases into various families is based on primary structure comparisons of the catalytic domains only and groups the enzymes in families of related sequences.

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Thirdly, what appears to be important and relevant is the activity of the xylanases as endo-1,4-xylanase. As such, R1 and R4 disclose the role of such activity in the bread dough.

Fourthly, family 8 xylanases from *Bacillus halodurans* have been characterised. Please see Takami, H. et al. 2000. *Nucleic Acids Res.* 28: 4317-4331.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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